Honeywell

ACUIX™IP Series

Rugged Housing and Dome

Installation Guide

Document 800-02460 – Rev A – 08/08

Revisions

Issue	Date	Revisions
A	08/08	New document

Explanation of Symbols

WARNING! The exclamation point in a red octagon is a WARNING. Failure to take or avoid a specific action could result in **physical harm to a person or irreparable damage to equipment**.

Caution The lightning flash with arrowhead symbol within an equilateral triangle alerts the user to the presence of uninsulated dangerous voltage within the enclosure of the product that **may be of sufficient magnitude to constitute a risk of electric shock to the person**.

Caution The exclamation point in a yellow equilateral triangle is a Caution. Failure to take or avoid a specified action could result in **loss of data or damage to equipment** and may contain important operating and maintenance servicing information.

FCC Compliance Statement

Information to the User: This equipment has been tested and found to comply with the limits for a Class B digital device. Pursuant to Part 15 of the FCC Rules, these limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference. For example, try orienting or relocating the receiving antenna, increasing the separation between the equipment and receiver, or connecting the equipment to an outlet on a different circuit.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Users of the product are responsible for checking and complying with all federal, state and local laws and statutes concerning the monitoring and recording of video and audio signals. Honeywell Video Systems shall not be held responsible for the use of this product in violation of current laws and statutes.

Canadian Compliance Statement

This Class B digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Manufacturer's Declaration of Conformance

North America
The equipment supplied with this guide conforms to UL60065, CAN/CSA C22.2 No. 60065:03.

Europe
The manufacturer declares that the equipment supplied with this guide is compliant with the essential protection requirements of the EMC directive 2004/108/EC and the Low Voltage Directive LVD 2006/95/EC, conforming to the requirements of standards EN 55022 for emissions, EN 50130-4 for immunity, and EN 60065 for Electrical Equipment safety.

Australia
This Class B digital apparatus complies with Australian Communications Authority (ACA) C-Tick standards, supplier number N219.

Warnings and Cautions

Read the following cautions and warnings prior to installation and use of this product.

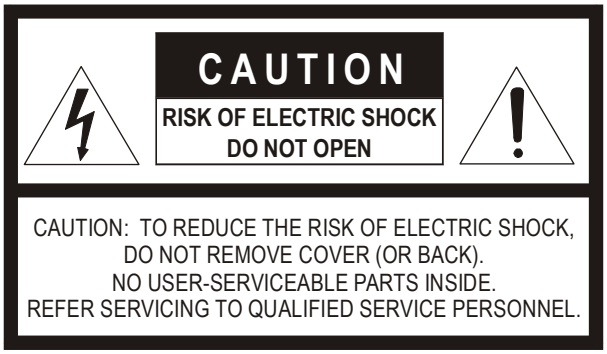
All installations and servicing must be performed by qualified technical personnel and must be in accordance with all national and local mechanical and electric codes.

To prevent injury, this apparatus must be securely attached to the wall/ceiling in accordance with the installation instructions.

To prevent damage to the interface board, follow standard industry precautions for electrostatic discharge sensitive devices.

Consider using a UPS source to ensure satisfactory performance.

Using replacement parts or accessories other than the original manufacturers may invalidate the warranty.


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

Important Safety Instructions

BEFORE OPERATING OR INSTALLING THE UNIT, READ AND FOLLOW ALL INSTRUCTIONS.
AFTER INSTALLATION, retain the safety and operating instructions for future reference

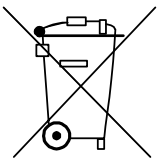
1. **HEED WARNINGS** - Adhere to all warnings on the unit and in the operating instructions.

2. **INSTALLATION**
   - Install in accordance with the manufacturer's instructions.
   - Installation and servicing should be performed only by qualified and experienced technicians to conform to all local codes and to maintain your warranty.
   - Do not install the unit in an extremely hot or humid location, or in a place subject to dust or mechanical vibration. The unit is not designed to be waterproof. Exposure to rain or water may damage the unit.
   - Any wall or ceiling mounting of the product should follow the manufacturer's instructions and use a mounting kit approved or recommended by the manufacturer.
3. **POWER SOURCES** - This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supplied to your facility, consult your product dealer or local power company.
4. **HEAT** - Situate away from items that produce heat or are heat sources such as radiators, heat registers, stoves, or other products (including amplifiers).
5. **MOUNTING SYSTEM -** Use only with a mounting system recommended by the manufacturer, or sold with the product.
6. **ATTACHMENTS** - Do not use attachments not recommended by the product manufacturer as they may result in the risk of fire, electric shock, or injury to persons.
7. **ACCESSORIES** - Only use accessories specified by the manufacturer.
8. **CLEANING** - Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
9. **SERVICING** - Do not attempt to service this unit yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
10. **REPLACEMENT PARTS** - When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards.

Warranty and Service

Subject to the terms and conditions listed on the Product Warranty Card, during the warranty period Honeywell will repair or replace, at its sole option, free of charge, any defective products returned prepaid. **In the U.S.A. and Canada, call 1.800.796.2288.**

In the event you have a problem with any Honeywell Video product, please call Customer Service for assistance or to request a Return Merchandise Authorization (RMA) number. Be sure to have the model and serial number, and the nature of the problem available for the technical service representative. Prior authorization must be obtained for all returns, exchanges, or credits. **Items shipped to Honeywell without a clearly identified Return Merchandise Authorization (RMA) number may be refused.**



WEEE (Waste Electrical and Electronic Equipment). Correct disposal of this product (applicable in the European Union and other European countries with separate collection systems). This product should be disposed of, at the end of its useful life, as per applicable local laws, regulations, and procedures

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ACUIX IP Rugged Housing and Dome

About Using This Guide

This guide has instructions to install the rugged dome with the ACUIX IP dome.

ACUIX Terminology

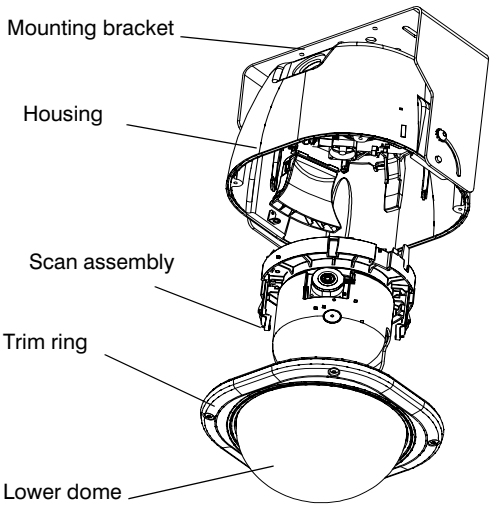
Dome: the complete installed product including the housing, mounting bracket, lower dome, and the scan assembly.

Scan Assembly: the combination of firmware, electrical and mechanical components including the camera. The scan assembly is installed into the housing and enclosed by a lower dome. The scan assembly is a component of a dome.

- **Camera:** the particular model camera purchased. The camera is a component of the scan assembly.

Housing: the in-ceiling, indoor or outdoor pendant and surface mount upper enclosure. Housing is a hardware component of the dome.

The ACUIX Dome is comprised of:



- **Mount**: the hardware used to mount the housing to the applicable surface (for example, a ceiling or wall). The mount is a hardware component used with a specific type of housing.

Lower Dome: the clear or colored enclosure that covers the scan assembly and attaches to the housing. With the rugged dome, it also includes the trim ring. The lower dome is a hardware component of the dome.

Rugged Housing and Dome Model Numbers

For other model numbers and information on the Honeywell Video web site, see *Related Documents* on page *11*.

Housing

- HDH00RD00: Rugged, white, digital

Lower Dome

- HDB00R0CW: Rugged, clear lower dome, white trim ring
- HDB00R0SW: Rugged, smoked lower dome, white trim ring

Installation Overview

For all outdoor installations, joints, bolts, and screws in the mount must be properly sealed to prevent moisture from entering the housing.

A complete ACUIX IP system installation is a multi-step process and depends on individual hardware configurations. Some of the information to complete the installation may be in the manual associated with the hardware being installed. For related documentation and the link to the Honeywell Video web site, see *Related Documents* on page *11*.

A typical installation has the following steps. The order may be slightly different for each type of installation.

1. Connect the field and terminal block wiring on the housing interface board, *page 13*. Also refer to the *ACUIX IP High Speed Dome User Guide* for more information.
2. Set the DIP switches on the scan assembly circuit board, *page 17*. Also refer to the *ACUIX IP High Speed Dome User Guide* for more information.
3. Mount the bracket to the ceiling, wall or other surface, *page 19*.
4. Mount the housing, *page 20*.
5. Install the scan assembly into the premounted housing, *page 21*.
6. Install the lower dome to cover the scan assembly and enclose the housing, *page 22*.
7. Refer to the *ACUIX IP High Speed Dome User Guide* to complete these steps:
   - Install the Honeywell IP Utility and ACUIX Web-Client software, configure the network and discover devices.
   - If applicable, continue setting up and configuring other custom settings including privacy zones and preset tours.
   - If required or applicable, proceed to user configurations based on other hardware, for example, a DVR.

Related Documents

Table 1-1 Related Documents and External Links

Document title or link	Part number
ACUIX IP High Speed Digital Dome User Guide	*800-00336*
ACUIX IP Quick Installation Guide	*800-00020*
Honeywell Video online literature ***http://www.honeywellvideo.com/support/literature/index.html*** *Access PDF versions of data sheets, quick references, installation and user guides, specifications, product notices and other useful material*	

Wiring and Power Cautions and Requirements

Wiring and Power Cautions

- To make good wire contact and ensure the wire does not short to adjacent wires, fully insert the wire in the hole on the terminal strip.
- A good earth ground must be connected at J1, pin 2. Surge suppression is not provided if the unit is not connected to a good earth ground.
- Ensure there are no bare wires touching or faulty operation may occur.
- Ensure the cabling does not interfere with the rotation of the pan and tilt assembly.
- To maintain 24 VAC ± 10% at each dome, the proper wire size for the distance and the number of domes must be determined.
- For CE compliance, the power supply must be connected to a CE approved 240V UPS (uninterruptible power supply). See *Table 1-4* for a list of the power supplies which must be used to meet FCC and UL requirements.

Recommended Wiring

Table 1-2 ACUIX IP Recommended Wiring

Type	Recommended Cable	Maximum Distance
Ethernet	CAT5 or above	328 feet (100 meters)
Power	18 AWG 2-Conductor, Vinyl Jacket	See gauge chart for each unit
Alarm	20 gauge unshielded twisted pair	10,000 feet (348 meters)

Power Requirements

The outdoor ACUIX requires a 24 VAC power supply @ 2.6 A, measured at the dome.

Refer to *Table 1-3* and *Table 1-4* to determine the wire sizes and maximum distances for one power source for one ACUIX and the required power supplies for CE compliance.

Table 1-3 Wire Gauge Required for Maximum Distance to Dome

AWG	24 VAC Camera plus Heater & Blower (2.6 A)
22	29 feet (8.8 meters)
20	45 feet (13.7 meters)
18	72 feet (21.9 meters)
16	115 feet (35.1 meters)
14	183 feet (55.8 meters)
12	291 feet (88.7 meters)

Table 1-4 Power Supplies

Model Number	Description
HPTV2404	4 Output, 24 VAC, 4A
HPTV2404CB	4 Output, 24 VAC, 4A, PTC
HPTV2404WP	4 Output, 24 VAC, 4A. NEMA4X Weatherproof enclosure
HPTV2404WP-2	4 Output, 24 VAC, 8A, NEMA4X Weatherproof enclosure
HPTV2401S	Single Output, 24 VAC, 8A, Indoor (includes power and video surge suppression)
HPTV2401Z	Single Output, 24 VAC, 8A, Indoor (includes power, video, and data surge suppression)
HPTV2401WPS	Single Output, 24 VAC, 8A, Weatherproof (includes power and video surge suppression)
HPTV2401WPZ	Single Output, 24 VAC, 8A, Weatherproof (includes power, video, and data surge suppression)

Step 1: Connect the Field and Terminal Block Wiring

The wiring installation must be performed by qualified technical personnel and must be in accordance with all national and local mechanical and electrical codes.

To prevent damage to the interface board, follow standard industry precautions for electrostatic discharge sensitive devices.

Note Each housing has a MAC address label attached to it that can be used to differentiate ACUIX IP domes that are connected on the same network. For more details, refer to the *ACUIX IP High Speed Dome User Guide*.

About the Terminal Blocks (J1, J4 and J6) and Switch (SW1)

The field wiring is connected to the interface board (see *Figure 1-1*) located at the top of the ACUIX rugged housing. There are three terminal blocks (J1, J4 and J6) and one switch (SW4) that require setting or wiring connections.

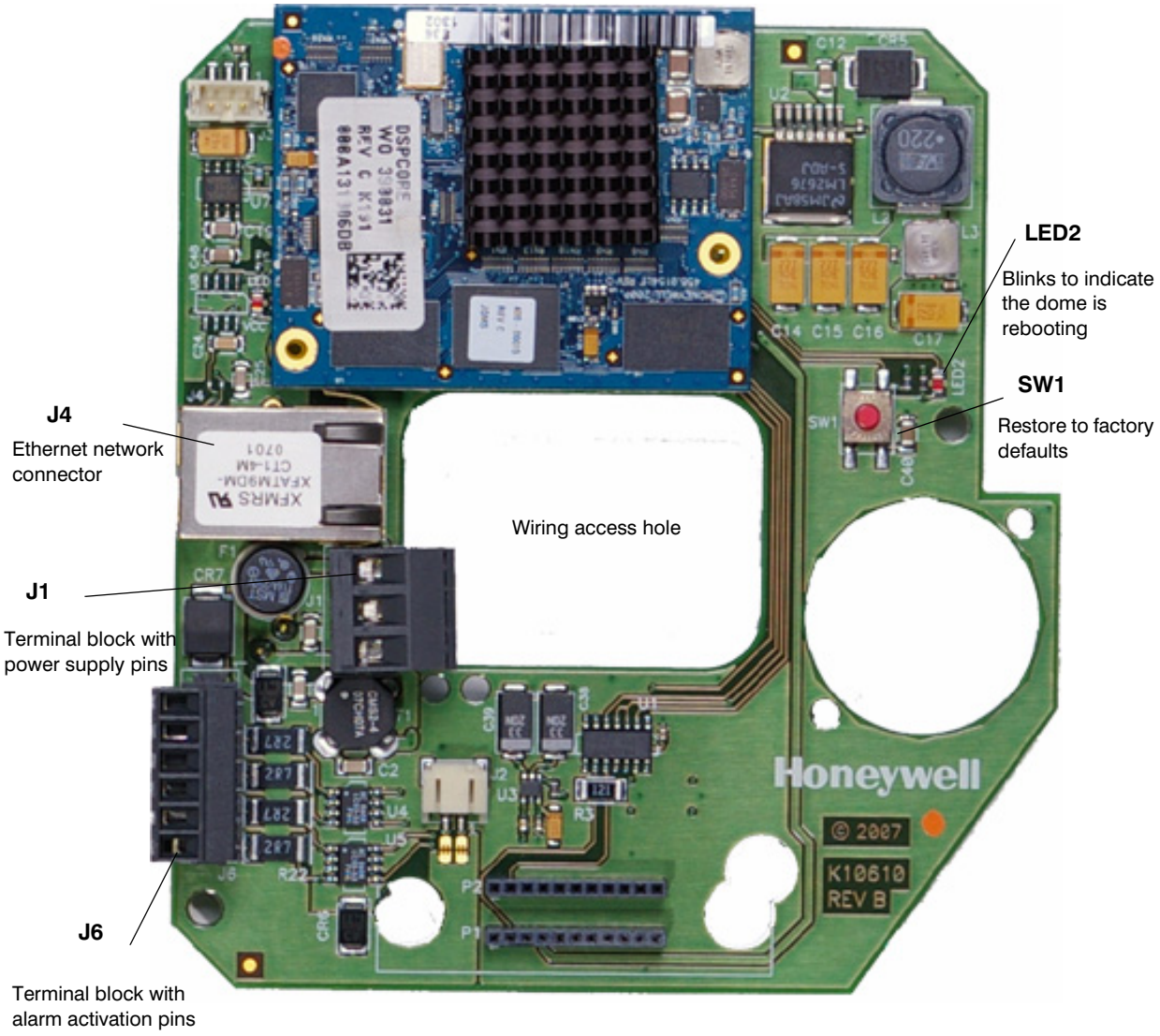
Terminal Blocks J1, J4 and J6

- J1: With power supply pins. See *Table 1-5*.
- J4: The RJ-45 Ethernet network connector is used to connect the ACUIX IP dome to your network with a network (10Base-T, 100Base-TX) cable. See *Table 1-5*.
- J6: With alarm activation pins (see *Figure 1-2*).

Restore to Factory Defaults Switch SW1

You can restore the configurations, compression settings and password factory defaults using switch (SW1) on the housing interface board. When this switch is held down for three seconds and LED2 starts to blink (see *Figure 1-1*), the dome reboots and all the defaults are restored.

Figure 1-1 ACUIX IP Housing Interface Board Layout



Connecting the Wiring to the Housing Interface Board

Note The terminal strips accept 16–30 AWG wire. If larger or smaller field-run wire is required, a 16–30 AWG wire must be spliced onto the field wire for insertion into the terminal strip.

1. Route the field wiring (power, alarm and CAT5 network cable):
   a. Through the field wiring access hole in the housing, and

b. Through the access hole in the interface board installed in the housing.

2. Remove the plug-in terminal blocks on terminal strips J1 and J6. See *Figure 1-1*.
3. To set up the alarm input terminal block:
   a. On terminal strip J6, connect a twisted-pair cable from each peripheral alarm contact to each input at the alarm number terminal and the alarm common terminal.
   b. Refer to the *ACUIX IP High Speed Dome User Manual* to configure the alarms. Note that the common terminals are doubled up, as shown in *Figure 1-2*.

Note The alarm input is a dry contact between the alarm input and common and that they can be configured as normally open (NO) of normally closed (NC).

4. Loosen the screws on the terminal strip.
5. Install the 24 VAC power wires and alarm wires on the correct positions on terminal strips J1 and J6. See *Table 1-5*.

Table 1-5 ACUIX IP Terminal Strip Pins and Functions (J1 and J6)

Terminal Strip J1	Function
Pin 1	24 VAC (AC)
Pin 2	Earth Ground
Pin 3	24 VAC (AC)
Terminal Strip J6	**Function**
Pin 1	Alarm 1 (A1)
Pin 2	Alarm Common (CM)
Pin 3	Alarm 2 (A2)
Pin 4	Alarm 3 (A3)
Pin 5	Alarm Common (CM)
Pin 6	Alarm 4 (A4)

6. Tighten the screw on the terminal strip to secure the wire.
7. Plug the terminal strips into the respective connectors on the interface board.
8. Secure the wires from the terminal strip together with a cable tie.
9. Feed extra wire and cable up through the hole in the housing and route it so that it doesn't interfere with the pan and tilt unit when it is inserted.
10. Connect an RJ45 network cable to the J4 terminal block Ethernet connection.
11. After connecting the power cabling, install the ferrite bead clamp (shipped with the housing) on the cable as close to the dome as possible, preferably within 24 inches (609 mm). See *Figure 1-3*. Note that the image displayed is for pendant housing. For rugged housing the wiring access hole extends from the side of the housing as in *Figure 1-4*.

Note A ferrite bead is a passive electric component used to suppress high frequency noise in electronic circuits.

Figure 1-2 J6 Terminal Block Alarm Connection

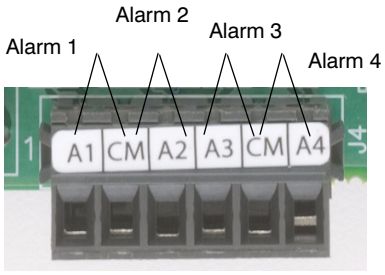
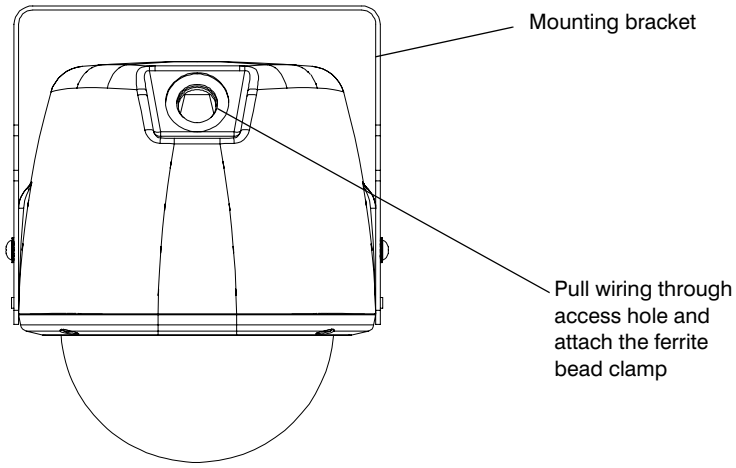


Figure 1-3 Ferrite Bead Installation Location

Figure 1-4 Rugged Housing Cable Access Hole



Step 2: Set Switches on the Scan Assembly Circuit Board

About the SW5 and SW6 DIP Switch Settings

The scan assembly printed circuit board (PCB) has DIP switches SW5 and SW6 that require setting as detailed in *Table 1-6* so that the ACUIX IP dome works correctly. Switch SW5 sets the protocol to IntelliBus and switch SW6 sets the baud rate to 38400 (positions 1 to 4) and No Parity (positions 5 and 6).

Leave SW5-8 **ON**. Setting the DIP switch SW5-8 to **OFF** enables a user to change the address, protocol, baud rate and parity from the OSD menu (which is not recommended with most installations).

Setting DIP Switches SW5 and SW6

- Set the DIP switches on the scan assembly printed circuit board as required for your system configuration. Use *Figure 1-5* and *Table 1-6* to help set it correctly.

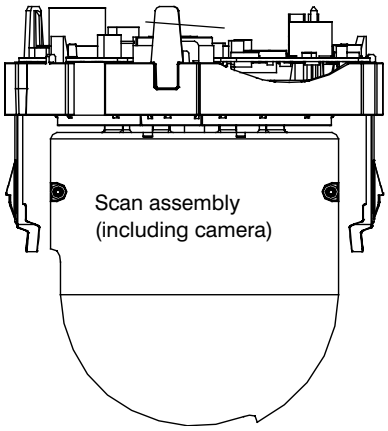
Table 1-6 ACUIX IP DIP Switch Settings (SW5 and SW6)

Switch Position							
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
SW5 - Set for IntelliBus Protocol							
OFF	OFF	OFF	OFF	OFF	OFF	OFF	**ON**
SW6 - Set Baud Rate to 38400 and No Parity							
OFF	**ON**	**ON**	OFF	OFF	OFF	OFF	OFF

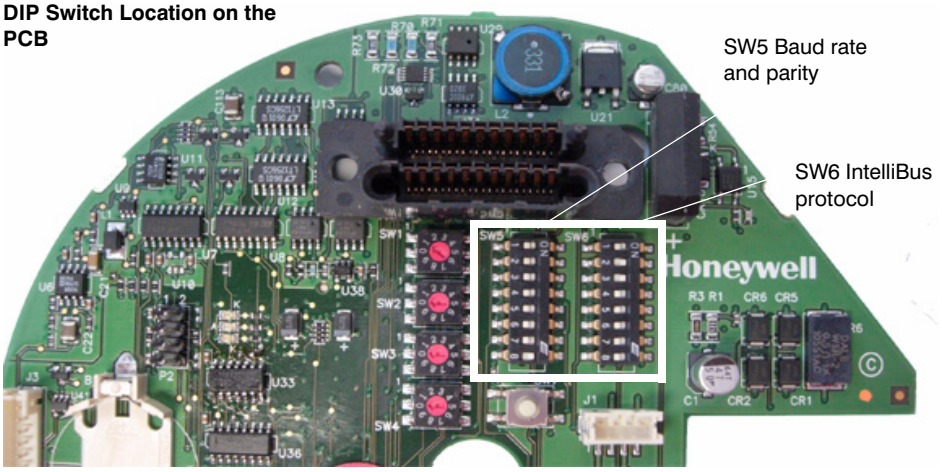
Figure 1-5 (A) PCB Location (B) DIP Switch Location (C) DIP Switch Example

A

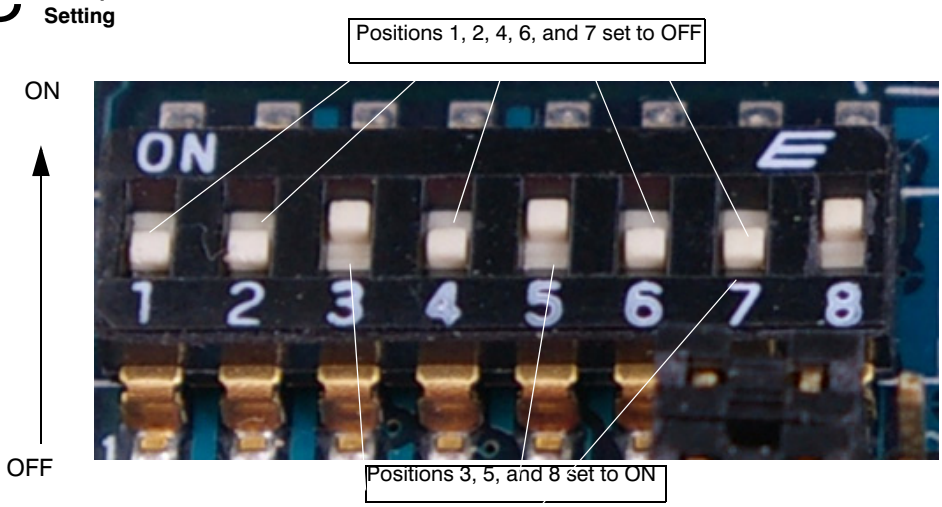
Printed circuit board location (PCB) on top of the scan assembly



B **DIP Switch Location on the PCB**



C **Example of a DIP Switch Setting**



Step 3: Mount the Rugged Housing Bracket

Note The mounting bracket can be at any angle from 0° to 90° with respect to the housing. The housing must be positioned horizontally and parallel to the floor.

1. Select the location for the housing.
   - Each ACUIX requires a 24 VAC ± 10% power source measured at the housing.
   - Ensure a 24 VAC @ 2.6A power source is available.
   - For maximum wiring distances to the dome, see *Table 1-2* on *page 12*.
2. Prepare the mounting surface by pre-drilling four holes to attach the mounting bracket to the ceiling or wall. See *Figure 1-6* for hole dimensions.
3. Secure a safety cable to a building support structure. Attach the safety cable (from the building support structure) to the mounting bracket by:
   a. Routing the safety around the mounting bracket, then
   b. Through a hole in the side of the mounting bracket and then
   c. Through the other side of the looping sleeve, and
   d. Crimp the looping sleeve to secure the safety cable.

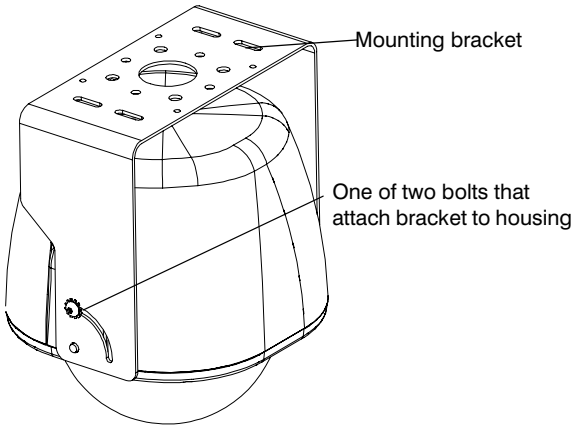
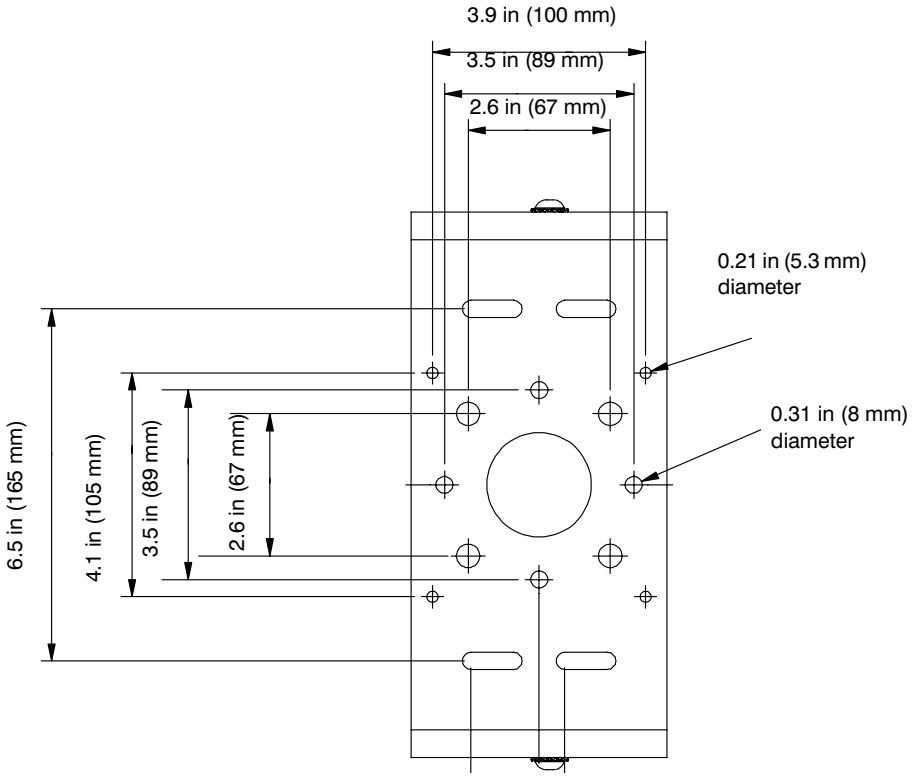


Figure 1-6 Rugged Housing Bracket Hole Dimensions



Step 4: Mount the Housing to the Ceiling or Wall

Note With outdoor installations or a wet indoor area, the conduit and conduit fitting must be water tight.

1. Install a 0.75"(19 mm) conduit fitting in the hole on the housing.
2. Place the supplied gasket between the hole in the housing and the conduit fitting to prevent leakage. Tighten the conduit nut.
3. Secure the housing to the mounting bracket, previously installed to a ceiling support structure or wall support structure using the appropriate hardware for the mounting surface.

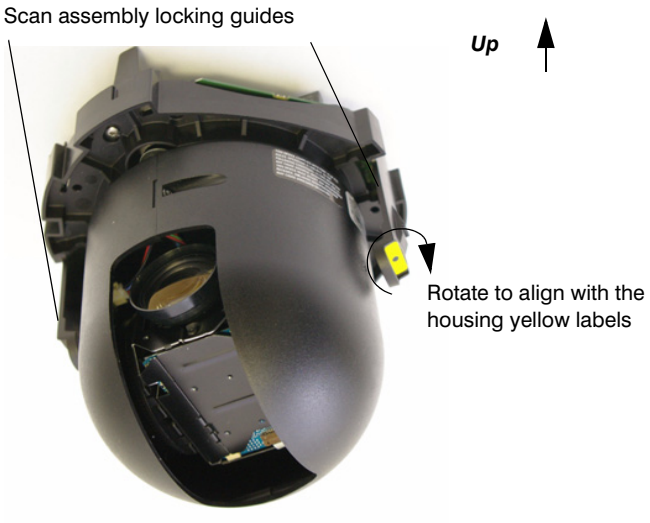
Note The mounting bracket can be at any angle from 0° to 90° with respect to the housing. The housing must be positioned horizontally and parallel to the floor.

4. To change the orientation of the bracket:
   a. Loosen and remove the two bolts that secure the bracket to the housing.
   b. Slide the bracket along the slot to remove it from the housing.

Step 5: Install the Scan Assembly into the Housing

1. Carefully remove the plastic lens cap from the scan assembly. Do not touch the lens.
2. Rotate and line up the scan assembly yellow label to the mounted housing yellow label. See *Figure 1-7* for the location of the scan assembly label and locking guides.
3. Gently push the scan assembly into the housing until the two guides on the scan assembly lock/snap into the holes on the housing guides.
4. Gently pull down on the assembly to ensure it has properly latched into place.

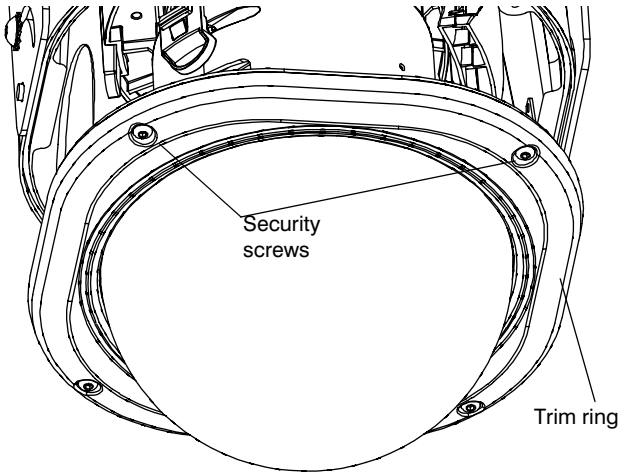
Figure 1-7 Insert the Scan Assembly into the Housing



Step 6: Install the Lower Dome onto the Housing

1. Align the four screw holes on the lower dome with the four holes on the housing.
2. Press the lower dome into the housing and turn the security screws using the special hex key to secure to the housing.

Figure 1-8 Rugged Housing - Lower Dome



Step 7: Install the ACUIX IP Software and Configure the Dome

Refer to the *ACUIX IP High Speed Dome User Guide* to complete these steps:

1. Install the Honeywell IP Utility and ACUIX Web-Client software, configure the network and discover devices.
2. If applicable, continue setting up and configuring other custom settings including privacy zones and preset tours.
3. If required or applicable, proceed to user configurations based on other hardware, for example, a DVR.

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